

SECTION LOBICALYCES OF CYRTANDRA (GESNERIACEAE)

HAWAIIAN PLANT STUDIES 154

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*Cyrtandra*

Section *Lobicalyces*, sect. nov.

(Subgen. *Brachycyathus*)

Diagnosis Typi: Calycibus viridibus persistentibus, fere 3/4 lobatis, lobis lanceolatis, corollis albis, inflorescentia cymosa, floribus paucis, foliis verticillatis.

Calyx green, persistent, campanulate, lobed about 3/4 way into lanceolate lobes; corollas white; inflorescence cymose, flowers few; leaves verticillate.

Type species: *Cyrtandra curvata* St. John.

Discussion: A related section is *Verticillatae*, which also has verticillate leaves, but it differs by having the calyx fusiform in bud, and it is deciduous before the fruit ripens.

Section *Schizocalyces* is similar to the new section in calyx and corolla, but the leaves are opposite.

Other species in the new section are *C. biserrata* Hillebr., *C. Conradtii* Rock, *C. Fauriei* H. Levl., *C. Grayana* Hillebr. and 6 vars., *C. longifolia* Hillebr., var. *degenerans* (Wawra) C. B. Clarke, f. *cymosa* Rock, *C. macrocalyx* Hillebr., *C. montis-loa* Rock, and *C. procera* Hillebr.

*Cyrtandra curvata* sp. nov. Frutex est, ramulis basi-pilosis, foliis 4- (3-) verticillatis, petiolis 5-7 mm longis dense pilosis, laminis 10-14 X 2-2.6 cm plicatis et in aspectu ligulatis sed in veritate anguste oblanceolati-oblongis acutis basi 6-8 mm lata subcordata infra dense pilosulis, cymis 3-5 cm longis 1-3-floriferis pilosulis, pedicellis 7-15 mm longis, gemmis campanulate lobis calycis adscendentibus, calycibus 16-17 mm longis pilosulis 3/4 partitis 5 lobis subaequalibus 11-13 mm longis oblanceolatis, corollis 22-24 mm longis tubo 17-18 mm longo pilosulo, 2 lobis superis 6 X 7 mm suborbicularibus. 2 lobis lateralibus 6 mm diametro suborbicularibus. loba infera 7 X 6 mm suborbiculari.

Diagnosis of Holotype: Shrub 1.5 m tall; leafy shoot 4-6 mm in diameter, densely brown pilose; middle stem 6-7 mm in diameter, brown, smooth, somewhat fleshy and

on drying with longitudinal ridges, glabrate; internodes 1.5-4 mm long; nodes scarcely enlarged; leaf scars 4-5 mm high, shieldshaped, pale; bundle scars 3; leaves 4- (3-) verticillate; leafy branches with 11 whorls of leaves; leaves at first ascending, later divergent, but downcurved and revolute, and thus appearing 7-9 mm wide, subsessile, the petioles 5-7 mm long, 2.5-3 mm in diameter, concealed by the dense brown pilosity; blades 10-14  $\times$  2-2.6 cm, but all plicate and appearing ligulate and less than half that width, very narrowly oblanceolate oblong, the apex acute, the base 6-8 mm wide, subcordate, fleshy, the outer half with minute curved subulate teeth, the secondary veins numerous and evident, above dark green, glabrous, below densely brown ascending pilosulous; cymes 3-5 cm long, 1-3-flowered; peduncle 6-10 mm long, appressed brown pilosulous; pedicels 7-15 mm long, appressed brown pilosulous; bracts 8-12 mm long, lanceolate, appressed brown pilosulous; buds campanulate, the calyx lobes ascending; calyx in antheses when fresh 16-17 mm long, green, campanulate, but cuneate at base, ascending, appressed brown pilosulous without, glabrous within, cleft  $3/4$  way, the tube 4-5 mm long, the 5 lobes subequal 11-13 mm long, 6 mm wide, elliptic oblanceolate, acute, in fruit the lobes 14-15 mm long, 7 mm wide; corolla when fresh white, 22-24 mm long, the tube 17-18 mm long, 4 mm in diameter at base, 3 mm at the middle, 8 mm at the throat, gently downcurved at the middle, the enclosed part glabrous, the free part spreading pilosulous, within at the throat capitate glandular puberulous; the limb 2-lipped, 5-lobed, the 2 upper lobes 6  $\times$  7 mm, suborbicular; lower lip 3-lobed, the lateral lobes 6 mm in diameter, suborbicular; the lower lobe 7  $\times$  6 mm, suborbicular; (fruit not seen).

Expanded Description: Shrub 1-2 m tall; middle stem 4-7 mm in diameter; internodes 0.6-4 cm long; leafy branches with 8-11 whorls of leaves; petioles 3-7 mm long; blades 3-14  $\times$  0.7-2.6 cm, the base 3-8 mm wide, secondary veins 8-10 in each half; cymes 1-3-flowered; peduncle 3-10 mm long; pedicels 7-17 mm long; bracts 5-12 mm long; corolla when dried 21 mm long; berry when dried 17  $\times$  11 mm, broadly ovoid, acute, and including the 2-3 mm beak.

Holotypus: Hawaiian Islands, Molokai Island, Ditch Trail, Hanalilililo, head of Waikolu Valley, rain forest, 3,600 ft alt., Dec. 24, 1953, H. St. John 25,223. (BISH).

<sup>a</sup>Specimens Examined: Hawaiian Islands, Molokai Island, Kōmoku Flats, common on moist shaded hillside, 3,400 ft elev., 3 July 1964, M. R. Crosby et al. 1,640; Nualele Valley Dark Gulch, March 18, 1952, O. Degener & A. Tam 22,211; head of Waikolu Valley, Hanalilililo, 3,750 ft

alt., Dec. 21, 1932, H. St. John et al. 12,407; Puu O Kaeha, Kawela, swampy forest, 3,900 ft alt., Dec. 23, 1932, St. John et al. 12,495; ridge between Hanlilolilo and Pepeopae, Waikolu Valley, Kawela, swampy rain forest, 4,000 at alt., Dec. 25, 1932, St. John et al. 12,588; s. w. slope of Puu Alii, Kawela, rain forest, 4,200 ft alt., Dec. 31, 1938, St. John et al. 19,931.

Discussion: C. curvata is the type species of the new section Curvata. Its closest relative seems to be C. Grayana Hillebr., of west Maui, a species with the cymes 6-7 cm long, 5-7-flowered, corolla 18-20 mm long; leaves 4-6-verticillate, flat, 18-37 mm wide, cuneate at base, above sparsely pilosulous, and the petioles 2.5-9 cm long. C. curvata has the cymes 3-5 cm long, 1-3-flowered; corolla 22-24 mm long; leaves 4- (3-) verticillate, folded and arcuate decurved, subcordate at base, 20-26 mm wide, above glabrous; and the petioles 5-7 mm long. The new types are in the Bishop Museum, Hon.

The new epithet is the Latin adjective curvata, curved, and it applies to the curved blades.

C. anise sp. nov. Frutex est, ramulis pilosis, foliis 4-verticillatis, petiolis 16-28 mm longis pilosulis, laminis 6-9 X 1.8-2 cm coriaceis elliptico-lanceolatis subacutis basi cuneata decurrenti supra hirsutis infra pilosis, cymis 2-4 cm longis 5-7-floriferis pilosulis, pedicellis 5-16 mm longis, calycibus 13-14 mm longis pilosulis 4/5 fissis lobis superis 10-11 mm longis illis inferis 11-12 mm longis elliptico-oblongis subobtusis. Typus: Maui I., Ukumehame Gulch, H. St. Joh et al. 25,737.

C. calvicalycis sp. nov. Frutex ramosus est, novellis sericeis, foliis 4-verticillatis, petiolis 2-3.5 cm longis sericeis, laminis 7-10 X 1.4-2.4 cm coriaceis oblanceolatis basi cuneata decurrenti supra hirsutulis infra sericeis, cymis 4-6 cm longis 3-floriferis sericeis, pedicellis 10-18 mm longis, calycibus 15-16 mm longis lobis 12-14 mm longis ellipticis acutis, corollis 27 mm longis. Typus: Maui I., Puu Kukui, F. R. Fosberg 10,003.

C. framea sp. nov. Ramulis hirsutis, foliis ternatis, petiolis 6-10 mm longis hirsutis, laminis 5-10 X 1.3-3.1 cm subcoriaceis oblanceolatis basi cuneata decurrenti infra pilosulis, cymis 3 cm longis 1-floriferis puberulis, pedicellis 13-17 mm longis, calycibus 19-21 mm longis puberulis lobis inferis 17 mm longis ellipticis subacutis, corollis 27 mm longis pilosulis. Typus: Molokai I., F. R. Warshauer 2,421.

*C. fulva* sp. nov. Novellae pilosae sunt, foliis ternatis, petiolis 14-20 mm longis ellipticis acutis basi cuneata decurrenti, cymis 3-7 cm longis 1-3-floriferis pilosulis, pedicellis 4-22 mm longis, calycibus 26 mm longis pilosulis  $\frac{1}{2}$  lobatis lobis inferis 12 mm longis ovato-lanceolatis, corollis 20 mm longis pilosulis. Typus: Molokai I., Kawela Gulch, L. E. Bishop 036903.

*C. furfurosa* sp. nov. Arbor 2-2.6 m alta est, novellis pilosulis, foliis ternatis, petiolis 15-45 mm longis pilosulis, laminis 12.5-15  $\times$  3.7-5.5 cm oblanceolatis basi cuneata decurrenti supra hirsutulis infra pilosulis, cymis 5 cm longis 7-floriferis pilosulis caulifloribus, pedicellis 7-13 mm longis pilosulis, calycibus 12-13 mm longis pilosulis lobis 11-12 mm longis spatulato-oblanceolatis, corollis 22 mm longis pilosulis. Typus: Molokai I., Waikolu Valley, M. R. Crosby & Anderson 1,685.

*C. Grayana* Hillebr., var. *caudata* var. nov. A var. *lanaiensis* Rock differt in calycibus 23-25 mm longis lobis 21-23 mm longis caudatis. Typus: Lanai I., Puu Aalii, F. R. Fosberg 12,474.

*C. Grayana* Hillebr., var. *Fosbergii* var. nov. A var. *lanaiensis* differt in lobis calycis 20-22 mm longis caudatis, laminis infra moderatim adpresse sericeis. Typus: Lanai I., Puu Aalii, F. R. Fosberg 12,474A.

*C. hematos* sp. nov. Ramulae glabrae sunt, foliis ternatis, petiolis 4-5.5 cm longis pilosulis, laminis 7-10.5  $\times$  2.6-4 cm subcoriaceis oblanceolatis basi cuneata supra pilosulis infra puberulis sed nervis pilosulis, cymis 3-4 cm longis 1-floriferis hirsutulis, pedicellis 12-17 mm longis, calycibus 15-17 mm longis puberulis lobis 2.5-3 mm longis ellipticis, corollis 22 mm longis glabris loba infera 9  $\times$  10 mm suborbiculari. Typus: Molokai I., Transect 21, F. R. Warshauer 2,935.

*C. Higashinoi* sp. nov. Novellae villosae sunt, foliis 4-verticillatis, petiolis 15-33 mm longis villosis, laminis 7-12.2  $\times$  2.3-3.8 cm subcoriaceis lanceolatis acuminate supra hirsutulis infra pilosulis midnervo piloso, cymis 2.5-5 cm longis 3-floriferis villosis, pedicellis 12-17 mm longis, calycibus 14-17 mm longis pilosis lobis 13-15 mm longis lanceolatis, corollis 28-30 mm longis pilosis loba infera 6 mm diametro suborbiculari. Typus: Maui I., Kahikinui, P. K. Higashino 9,226.

*C. inaequalis* sp. nov. Novellae pilosae sunt, foliis ternatis, petiolis 10-30 mm longis glabris, laminis 9-16  $\times$  3.5-5 cm oblanceolatis basi cuneata decurrenti supra nervis hirsutulis infra nervis hirsutulis, cymis 5.5 cm longis 3-floriferis glabris, pedicellis 5-6 mm longis, calycibus 16-19 mm longis glabris lobis inferis

8-11 mm longis lanceolatis, corollis 34 mm longis glabris. Typus: Molokai I., Transect 1, F. R. Warshauer 2,426.

*C. kalaeensis* sp. nov. Arbor est, novellis puberulis, foliis ternatis, petiolis 4-32 mm longis pilosulis, laminis 2.2-9.8 X 1-3.4 cm ellipticis acuminatis basi cuneata supra hirsutulis infra puberulis sed nervis pilosulis, cymis 2.5-4.5 cm longis 1-floriferis pilosulis, pedicellis 6-16 mm longis, calycibus 9-10.5 mm longis pilosulis 4/5 lobatis lobis 8-9 mm longis oblanceolatis, corollis 13-15 mm longis pilosulis. Typus: Molokai I., Kalae, J. F. Rock 14.047.

*C. kamokuensis* sp. nov. Novellae pilosae sunt, foliis ternatis, petiolis 12-22 mm longis pilosulis, laminis 4.3-14 X 1.5-4 cm oblanceolatis acuminatis basi cuneata decurrenti supra hirsutulis infra pilosulis sed nervis villosis, cymis 5-7.5 cm longis 1-floriferis pilosulis, pedicellis 14-30 mm longis, calycibus 23-26 mm longis pilosulis lobis inferis 5-9 mm longis lanceolatis, corollis 27 mm longis pilosulis loba infera 6 X 5 mm suborbiculari. Typus: Molokai I., Kamoku Camp, J. F. Rock 6,118.

*C. kirrhe* sp. nov. Novellae pilosulae sunt, foliis ternatis, petiolis 2.5-3 cm longis pilosulis, laminis 9-13 X 2.1-2.8 cm ellipticis acuminatis basi cuneata decurrenti supra hirsutulis infra nervis pilosulis, cymis 5-7 cm longis 1-3-floriferis pilosulis, pedicellis 6-22 mm longis, calycibus 13-15 mm longis pilosulis 6/7 lobatis lobis 11-13 mm longis lanceolatis, corollis 26-27 mm longis pilosulis. Typus: Maui I., Puu Kukui, L. M. Cranwell et al. 2,653.

*C. leiocalyx* sp. nov. Novellae pilosulae sunt, foliis 4-verticillatis, petiolis 2-4.2 cm longis pilosulis, laminis 5.5-8.7 X 2-3.2 cm supra hirsutulis infra nervis hirsutulis, cymis 2.5-3 cm longis 1-floriferis glabris, pedicellis 8-9 mm longis, calycibus 11 mm longis lobis 8-9 mm longis oblanceolatis, corollis 24 mm longis glabris. Typus: Molokai I., Kaluaaha Valley C. N. Forbes 450.Mo.

*C. monanthe* sp. nov. Ramulae pilosulae sunt, foliis ternatis, petiolis 1.5-5.3 cm longis, laminis 6-9.7 X 2-3.2 cm ellipticis subacuminatis basi cuneata supra hirsutis infra pilosulis, cymis 5-8 cm longis 1-floriferis hirsutulis, pedicellis 18-27 mm longis, calycibus 16-18 mm longis hirsutulis lobis 14-16 mm longis lanceolatis, corollis 21-22 mm longis hirsutulis, loba infera 6 mm longa ovata. Typus: Molokai I., Transect 2, F. R. Warshauer 2,363.

*C. olaaensis* sp. nov. Novellae villosae sunt, foliis ternatis, petiolis 2-5.5 cm longis villosis, laminis 6.5-16.5 X 2.3-6.1 cm ellipticis acuminatis basi cuneata

decurrenti supra midnervo hirsutulo, infra nervis pilosis, cymis 2.5-5 cm longis 3-5-floriferis pilosis, pedicellis 15-22 mm longis, calycibus 20 mm longis pilosis 2/3 lobatis lobis 15-17 mm longis lanceolatis, corollis 18-19 mm longis. Typus: Oloa, Kulani Trail, H. St. John 24,974.

*C. olokuiensis* sp. nov. Novellae pilosulae sunt, foliis ternatis, petiolis 2-3.3 cm longis pilosulis, laminis 5.2-10.7  $\times$  2.5-4 cm subcoriaceis oblanceolatis subacuminatis basi cuneata decurrenti supra hirsutis infra nervis hirsutis, cymis 5 cm longis 2-floriferis pilosulis, pedicellis 15-20 mm longis, calycibus 9 mm longis pilosulis lobis 7-8.5 mm longis lanceolatis, corollis 22 mm longis pilosulis. Typus: Molokai I., Olokui, P. K. Higashino 9,400.

*C. pepeopaeensis* sp. nov. Novellae hirsutae sunt, foliis 4-verticillatis, petiolis 1.5-3 mm longis, laminis 5-8.5  $\times$  0.9-1.5 cm oblanceolatis falcatis supra glabris infra pilosulis, cymis 3-4 cm longis 1-floriferis hirsutulis, pedicellis 13-17 mm longis, calycibus 12-13 mm longis hirsutulis 11/12 lobatis lobis 9-12 mm longis lanceolatis, corollis 20-22 mm longis hirsutulis. Typus: Molokai I., Pepeopae Bog, J. Davis & P. Kores 59.

*C. prasina* sp. nov. Novellae pilosae sunt, foliis ternatis, petiolis 2-4.5 cm longis pilosis, laminis 7.5-13.5  $\times$  2.5-4 cm oblanceolatis subacuminatis basi cuneata supra pilosulis infra pilosulis sed nervis pilosis, cymis 1-3-floriferis pilosis, pedicellis 6-14 mm longis, calycibus 15-19 mm longis puberulis 7/8 lobatis lobis 13-16 mm longis spatulatis. Typus: Hawaii I., Mountain View, W. Gagne 659.

*C. puensis* sp. nov. Novellae pilosulo-tomentosae sunt, foliis 6-verticillatis, petiolis 12-20 mm longis pilosulis, laminis 5.7-9.5  $\times$  1.1-2.1 cm coriaceis ellipticis acutis basi cuneata supra pilosis infra pilosulo-tomentosis, cymis caulifloribus 3.5-4.5 cm longis 3-7-floriferis pilosulis, pedicellis 6-9 mm longis, calycibus 10-11 mm longis 4/5 lobatis pilosulis lobis 7-9 mm longis ellipticis, corollis 20-21 mm longis pilosis. Typus: Maui I., Puu Kukui, M. R. Crosby & W. R. Anderson 1,847.

*C. stenohede* sp. nov. Novellae pilosulae sunt, foliis ternatis, petiolis 1-2 cm longis pilosulis, laminis 14-22  $\times$  4.6-8.6 cm ellipticis acuminatis tertia basali anguste cuneata supra hirsutulis infra nervis hirsutulis, cymis 5-6.5 cm longis 3-floriferis pilosulis, pedicellis 10-27 mm longis, calycibus 16-20 mm longis pilosulis lobis inferis 11 mm longis lanceo-subulatis, corollis 22-25 mm longis pilosulis. Typus: Hawaii I., Holokaiea, J. F. Rock 4,075.

*C. subaequalis* sp. nov. Novellae pilosae sunt, foliis ternatis, petiolis 2-4.5 cm longis pilosis, laminis 7.5-13.5  $\times$  2.5-4 cm oblanceolatis subacuminatis basi cuneata supra pilosulis infra pilosulis, cymis 1-3-floriferis pilosis, pedicellis 6-14 mm longis, calycibus 13-15 mm longis puberulis. Typus: Hawaii I., Keaau, W. C. Gagne 659.

*C. subcalva* sp. nov. Novellae pilosulae sunt, foliis 4-verticillatis, petiolis 1.5-3 cm longis pilosulis, laminis 7-14.5  $\times$  1.8-3.2 cm oblanceolatis acuminatis basi cuneata et decurrenti supra midnervo puberulo infra nervis pilosulis, cymis 3.5-4 cm longis 1-floriferis pilosulis, pedicellis 4-8 mm longis, calycibus 25-26 mm longis pilosulis 2/5 lobatis lobis 12-17 mm longis lanceolatis, corollis 25 mm longis glabris. Typus: Molokai I., Wailau, H. St. John et al. 13,257B.

*C. subtilis* sp. nov. Novellae hirsutulae sunt, foliis ternatis inaequalibus, petiolis 1.5-3.5 cm longis, laminis 6-10.5  $\times$  2.4-4.5 cm ellipticis subacuminatis basi cuneata, cymis 4-10 cm longis 2-3-floriferis hirsutulis, pedicellis 13-27 mm longis, calycibus 16-18 mm longis hirsutulis lobis 13-14 mm longis lanceolatis, corollis 19 mm longis hirsutulis. Typus: Hawaii I., Transect 67, F. R. Warshauer 2,014.

*C. subviridis* sp. nov. Novellae pilosae sunt, foliis 3-4-verticillatis, petiolis 1.4-4.8 cm longis pilosis, laminis 6.5-11 cm longis subcoriaceis fusiformibus acuminatis basi cuneata decurrenti supra hirsutulis infra tomentosis, cymis caulifloribus 3-6 cm longis 9-13-floriferis pilosulis, pedicellis 8-13 mm longis, calycibus 15 mm longis pilosulis 5/6 lobatis lobis 12-13 mm longis ellipticis acutis, corollis 25 mm longis hirsutis. Typus: Maui I., Hanaula, K. Nagata 1,925.

*C. tenuis* sp. nov. Novellae pilosulae sunt, foliis ternatis, petiolis 5-7 cm longis pilosulis, laminis 14-17  $\times$  3.3-4.3 cm coriaceis oblanceolatis subacuminatis basi cuneata decurrenti supra hirsutulis infra tomentosis, cymis 5 cm longis 7-floriferis pilosulis, pedicellis 12-17 mm longis, calycibus 15-17 mm longis pilosulis, lobis 10-15 mm longis ellipticis, corollis 21-22 mm longis pilosulis. Typus: Molokai I., Puu Kolekole, C. N. Forbes 147a.Mo.

*C. tetraphylla* sp. nov. Novellae pilosulae sunt, foliis 4-verticillatis, petiolis 1.2-2.2 cm longis pilosulis, laminis 5-9  $\times$  1.7-2.6 cm coriaceis oblanceolatis basi cuneata supra hirsutulis infra pilosis, cymis 3-5 cm longis 3-5-floriferis pilosulis, pedicellis 8-15 mm longis, calycibus 14 mm longis pilosulis lobis inferis 8-10 mm longis ovatis acutis, corollis 26-30

mm long. Typus, Maui I., Puu Kukui, F. R. Warshauer 3,044.

*C. triados* sp. nov. Novellae pilosulae sunt, foliis ternatis, petiolis 5-9 cm longis pilosulis, laminis 16-20 × 5.1-7 cm subcoriaceis ellipticis acutis basi cuneata decurrenti supra hirsutulis infra pilosulis, cymis 6-9 cm longis 3-floriferis pilosulis, pedicellis 7-25 mm longis, calycibus 17-20 mm longis pilosulis lobis 14-18 mm longis ellipticis, corollis 35 mm longis pilosulis. Typus: Molokai I., Transect 9, L. Stemmermann 3,862.

*C. trifida* sp. nov. Novellae hirsutae sunt, foliis ternatis, petiolis 8-25 mm longis hirsutis, laminis 4.5-10.5 × 1.5-4 cm ellipticis subacuminatis basi cuneata supra hirsutis infra nervis hirsutis, cymis 4.5-7 cm longis 3-5-floriferis hirsutis, calycibus 13-15 mm longis hirsutis 4/5 lobatis lobis 10-12 mm longis lanceolatis, corollis 15-16 mm longis. Typus: Hawaii I., Puu Hualalai, H. St. John 11,377.

*C. triplex* sp. nov. Novellae puberulae sunt, foliis ternatis, petiolis 4-20 mm longis puberulis, laminis 3.2-9.7 × 1.1-3.3 cm ellipticis acuminatis basi cuneata supra hirsutulis infra puberulis, cymis 3.5-5 cm longis 1-floriferis puberulis, pedicellis 15-25 mm longis, calycibus 14-15 mm longis puberulis lobis 12-13 mm longis oblanceolatis, corollis 17-18 mm longis pilosis. Typus: Molokai I., Kalae, C. N. Forbes 30.Mo.

*C. ustulata* sp. nov. Novellae pilosae sunt, foliis ternatis, petiolis 1.5-3.5 cm longis pilosis, laminis 8-13 × 2.5-4 cm fusiformibus subacuminatis basi cuneata supra pilosis infra pilosulis, cymis 5 cm longis 2-floriferis pilosis, pedicellis 10-15 mm longis, calycibus 12-13 mm longis pilosulis lobis 8-9 mm longis lanceo-ovatis. Typus: Maui I., Wailaulau Gulch, A. C. Medeiros 234.

*C. vestigii* sp. nov. Novellae pilosae sunt, foliis 3-4-verticillatis, petiolis 2-3 cm longis pilosis, laminis 5-9 × 1.2-3.5 cm ellipticis subacuminatis basi cuneata supra hirsutulis infra pilosulis nervis pilosis, cymis 2.5-3 cm longis 3-5-floriferis pilosis, pedicellis 2-8 mm longis, calycibus 11-12 mm longis 4/5 lobatis pilosulis lobis 9-10 mm longis oblanceolatis, corollis pilosulis. Typus: Molokai I., Mapulehu, H. St. John & F. R. Fosberg 12,903.

*C. vulsa* sp. nov. Novellae pilosae sunt, foliis ternatis, petiolis 3-6.5 cm longis pilosis, laminis 13-16 × 4-8 cm coriaceis ellipticis subacuminatis basi cuneata supra midnervo pilosulo infra pilosulis, cymis 4-4.5 cm longis 3-5-floriferis pilosis, pedicellis 10-17 mm longis, calycibus 15-17 mm longis pilosis lobis 11-14 mm longis lanceolatis. Typus: Hawaii I., Palakea Forest, C. N. Forbes 996.H.

## ADDENDUM

*C. hanaulaensis* sp. nov. Ramulae pilosulae sunt, foliis 3-4-verticillatis inaequalibus, petiolis 2.5-5 cm longis pilosulis, laminis 7-13.5  $\times$  1.9-3.5 cm oblanceolatis acutis basi cuneata decurrenti supra hirsutulis infra pilosis, cymis 5-7 cm longis 7-10-floriferis pilosulis, pedicellis 6-12 mm longis, calycibus 14-16 mm longis pilosulis lobis 10-12 mm longis ellipticis subacutis, corollis 23-25 mm longis pilosulis loba infera 10-11  $\times$  8-9 mm elliptica. Typus: Maui I., Hanaula, H. St. John 26,880.